(FILE 'HOME' ENTERED AT 16:35:14 ON 06 MAY 2004)

FILE 'MEDLINE, EMBASE, SCISEARCH, BIOSIS, USPATFULL' ENTERED AT 16:35:40 ON 06 MAY 2004

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L1          138 S (ADENYLATE KINASE) (5A) (ERYTHROCYTE OR (RED BLOOD) OR RBC)
L2           90 S (ADENYLATE KINASE) (2A) (ERYTHROCYTE OR (RED BLOOD) OR RBC)
L3            1 S L2 (P) ANTIBOD?
L4            1 S L2 (6P) ANTIBOD?
L5            2 S L1 (6P) ANTIBOD?
L6           51 DUP REM L2 (39 DUPLICATES REMOVED)
L7          120 S (ADENYLATE KINASE) (2A) (ERYTHROCYT? OR (RED BLOOD) OR RBC)
L8          185 S (ADENYLATE KINASE) (5A) (ERYTHROCYT? OR (RED BLOOD) OR RBC)
L9            7 S L8 AND ANTIBOD?
L10           7 DUP REM L9 (0 DUPLICATES REMOVED)
L11           4 S L8 (6P) ANTIBOD?
L12           4 DUP REM L11 (0 DUPLICATES REMOVED)
L13          31 S L8 (6P) ?ASSAY?
L14          15 DUP REM L13 (16 DUPLICATES REMOVED)

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     (FILE 'HOME' ENTERED AT 17:55:01 ON 06 MAY 2004)

     FILE 'MEDLINE, EMBASE, SCISEARCH, BIOSIS, USPATFULL' ENTERED AT 17:55:56
     ON 06 MAY 2004
L1          120 S (ERYTHROCYT? OR (RED BLOOD) OR RBC) (2A) (ADENYLATE KINASE)
L2            1 S L1 (P) ANTIBOD?
L3          185 S (ERYTHROCYT? OR (RED BLOOD) OR RBC) (5A) (ADENYLATE KINASE)
L4            1 S L3 (P) ANTIBOD?
L5            2 S L3 (P) (BIND?)

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     (FILE 'HOME' ENTERED AT 17:15:14 ON 06 MAY 2004)

     FILE 'EMBASE, SCISEARCH, BIOSIS, MEDLINE, USPATFULL' ENTERED AT 17:15:53
     ON 06 MAY 2004
L1        16730 S (ERYTHROCYT? OR (RED BLOOD) OR RBC) (3A) ANTIBOD?
L2           29 S (ADENYLATE KINASE) (3A) ANTIBOD?
L3            1 S L1 (P) L2

=> s (erythrocyt? or (red blood) or rbc) (3a) (adenylate kinase) (3a) antibod?
L4            1 (ERYTHROCYT? OR (RED BLOOD) OR RBC) (3A) (ADENYLATE KINASE)
                (3A) ANTIBOD?

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L14 ANSWER 2 OF 15 MEDLINE on STN DUPLICATE 1
ACCESSION NUMBER: 2000320437 MEDLINE
DOCUMENT NUMBER: PubMed ID: 10861813
TITLE: Diagnosis of the hemolytic state using serum levels of erythrocyte adenylate kinase.
AUTHOR: Burns E R; Kale A; Murthy V V
CORPORATE SOURCE: Department of Pathology, Albert Einstein College of Medicine, Bronx, NY 10461, USA.. eburns@aecom.yu.edu
SOURCE: American journal of hematology, (2000 Jul) 64 (3) 180-3. Journal code: 7610369. ISSN: 0361-8609.
PUB. COUNTRY: United States
DOCUMENT TYPE: Journal; Article; (JOURNAL ARTICLE)
LANGUAGE: English
FILE SEGMENT: Priority Journals
ENTRY MONTH: 200007
ENTRY DATE: Entered STN: 20000714
Last Updated on STN: 20000714
Entered Medline: 20000706

AB Red cell hemolysis is classically diagnosed by a combination of nonspecific laboratory tests, including serum bilirubin, LDH, and the reticulocyte count. None of these tests alone or in combination has the specificity to reliably ascertain the presence of hemolysis. We have previously demonstrated that **erythrocyte adenylate kinase** (EAK) is a red cell specific enzyme released from damaged red cells. Its activity can be measured in serum by rapid electrophoresis or immunological methods and correlates linearly with the degree of hemolysis in vitro. We now report on a clinical study comparing EAK levels in patients with and without hemolysis. The clinical diagnosis of hemolysis was established in hospitalized patients with anemia by the combined elevation of the bilirubin, LDH, and reticulocyte count in the absence of liver disease and demonstrable blood loss. The normal range of serum EAK was determined in 30 healthy nonanemic voluntary blood donors and was 0-3.5 Units (mean = 0.5). In 25 patients with hemolytic anemia due to sickle cell disease, hemolytic transfusion reactions, or TTP, the mean EAK level was 62.4 with a range 0-298 Units ($P < 0.001$ compared to normals). Levels of EAK exceeded the normal range in 24 of 25 patients (96%). In a control group of 44 hospitalized patients with liver disease or myocardial infarction and no clinical evidence of hemolysis, the mean EAK level was 0.12 with a range of 0-3.2 ($P = 0.1$, NS compared to normals and $P < 0.001$ compared to patients with hemolysis). None of the control patients had EAK levels that exceeded the normal range. The diagnostic sensitivity of the EAK **assay** for hemolysis, as calculated according to Baye's algorithm, was 96%, with a specificity and accuracy of 97%. Measurement of serum EAK represents a highly sensitive and specific test for the diagnosis of hemolytic anemia.

14 ANSWER 9 OF 15 MEDLINE on STN DUPLICATE 4

ACCESSION NUMBER: 79064127 MEDLINE
DOCUMENT NUMBER: PubMed ID: 214256
TITLE: Anion-exchange chromatography of **erythrocytic** and muscle **adenylate kinase** and its effect on the serum creatine kinase isoenzyme **assays**.
AUTHOR: Klein B; Jeunelot C L
SOURCE: Clinical chemistry, (1978 Dec) 24 (12) 2168-70. Journal code: 9421549. ISSN: 0009-9147.
PUB. COUNTRY: United States
DOCUMENT TYPE: Journal; Article; (JOURNAL ARTICLE)
LANGUAGE: English
FILE SEGMENT: Priority Journals
ENTRY MONTH: 197902
ENTRY DATE: Entered STN: 19900314
Last Updated on STN: 19900314
Entered Medline: 19790212

AB We determined the elution profile of erythrocytic and muscle adenylate kinases (EC 2.7.4.3) in the Roche chromatographic creatine kinase procedure and studied the interference these enzymes would cause in the isolation and assay of serum creatine kinase (EC 2.7.3.2) isoenzymes. Both adenylate kinases co-elute with the creatine kinase MM fraction and do not interfere with the isolation or assay of the MB fraction.

TI Anion-exchange chromatography of **erythrocytic** and muscle **adenylate kinase** and its effect on the serum creatine kinase isoenzyme **assays**.